

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented): A production method of a ferrite material comprising as main constituents Fe_2O_3 : 62 to 68 mol%, ZnO : 12 to 20 mol%, and MnO , characterized by comprising:

a compacting step for obtaining a compacted body by using a powder comprising said main constituents, wherein said powder has a specific surface area falling within a range between 2.5 and 5.0 m^2/g and a 90% particle size of 10 μm or less;

a sintering step for sintering said compacted body obtained in said compacting step; wherein

a 50% particle size of said powder falls within a range between 0.8 and 1.8 μm and a 10% particle size of said powder falls within a range between 0.55 and 0.73 μm .

2. (Cancelled).

3. (Original): The production method of a ferrite material according to claim 1, characterized in that the specific surface area of said powder falls within a range between 2.7 and 5.0 m^2/g and the 90% particle size of said powder is 5 μm or less.

4. (Original): The production method of a ferrite material according to claim 1, characterized in that said sintering step comprises:

a temperature increasing process for increasing the temperature up to a predetermined temperature, wherein a temperature range having a partial pressure range of oxygen of 4.0% or less is provided;

a temperature retention process for retaining the sintering atmosphere at said predetermined temperature; and

a temperature decreasing process subsequent to said temperature retention process.

5. (Original): The production method of a ferrite material according to claim 1, characterized in that said sintering step comprises:

a temperature retention process for retaining the sintering atmosphere in a predetermined temperature range; and

a temperature decreasing process to be carried out in a nitrogen atmosphere subsequent to said temperature retention process, wherein a slow cooling range having a cooling rate of 100°C/hr or less is set in said temperature decreasing process.

6. – 10 (Cancelled).

11. (Previously Presented): The production method of a ferrite material according to claim 1, characterized in that said ferrite material comprises NiO: 5 mol% or less (not inclusive of 0%) and/or LiO_{0.5} less than 4 mol% (not inclusive of 0).

12. (Previously Presented): The production method of a ferrite material according to claim 1, characterized in that said ferrite material has a saturation magnetic flux density at 100°C of 470 mT or more (measurement magnetic field: 1194 A/m), and a core loss of 1400 kW/m³ or less (measurement conditions: 100 kHz, 200 mT).

13. (Previously Presented): The production method of a ferrite material according to claim 1, characterized in that said ferrite material has a volume resistivity of 0.13 Ω·m or more at room temperature.

14. (Previously Presented): A production method of a ferrite material comprising as main constituents Fe_2O_3 : 62 to 68 mol%, ZnO : 12 to 20 mol%, and MnO , characterized by comprising:

a compacting step for obtaining a compacted body by using a powder comprising said main constituents, wherein said powder has a specific surface area falling within a range between 2.5 and 5.0 m^2/g and a 90% particle size of 10 μm or less;

a sintering step for sintering said compacted body obtained in said compacting step; wherein

in said sintering step, a screen substance is arranged to block the direct collision of the gas flow generated in the sintering atmosphere against said compacted body.

15. (Original): The production method of a ferrite material according to claim 14, characterized in that said sintering is carried out while a plurality of said compacted bodies are laminated, and said screen substance is arranged so as to surround said compacted bodies.

16. (Previously Presented): The production method of a ferrite material according to claim 15, characterized in that said screen substance is constituted of a sintered body having substantially the same composition as that of the desired ferrite material.

17. (Currently Amended): A ferrite material characterized in that the core loss thereof is 1400 kJ/m^3 or less (measurement conditions: 100 kHz, 200 mT), and:

the ferrite material is made of a sintered body comprising as main constituents Fe_2O_3 : 62 to 68 mol%, ZnO : 12 to 20 mol%, and MnO ;

the saturation magnetic flux density thereof at 100°C is 470 mT or more (measurement magnetic field: 1194 A/m); and

the volume resistivity thereof at room temperature is 0.13 $\Omega\cdot\text{m}$ or more[.]

wherein the ferrite material comprises Si and Ca as first additives in a combined content of 900 to 3000 ppm in terms of SiO₂ and CaCO₃, respectively, under the condition that SiO₂/CaCO₃ = 0.055 to 0.30.

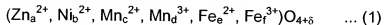
18. (Canceled):

19. (Original): The ferrite material according to claim 17, characterized in that the ferrite material comprises Si and Ca as first additives in a combined content of 1700 to 3000 ppm in terms of SiO₂ and CaCO₃, respectively, under the condition that SiO₂/CaCO₃ = 0.055 to 0.19.

20. (Original): The ferrite material according to claim 17, characterized in that said ferrite material comprises NiO: 5 mol% or less (not inclusive of 0%) and/or LiO_{0.5}: less than 4 mol% (not inclusive of 0).

21. (Previously Presented): The ferrite material according to claim 17, characterized in that the core loss change rate thereof is 10% or less (core loss change rate = (Pcv1 - Pcv2)/Pcv1 × 100, Pcv1: core loss before high temperature storage, Pcv2: core loss after high temperature storage, high temperature storage: 150°C × 2000 hours).

22. (Previously Presented): The ferrite material according to claim 17, characterized in that the δ value (the cation vacancy amount) in the following ferrite composition formula (1) is 0.0033 or less:



where $a + b + [(C)] \leq d + e + f = 3$, and

$$\delta = a + b + c + (3/2)d + e + (3/2)f - 4.$$

23. (Original): The ferrite material according to claim 17, characterized in that: said ferrite material comprises LiO_{0.5}: less than 4 mol% (not inclusive of 0);

the saturation magnetic flux density thereof at 100°C is 490 mT or more (measurement magnetic field: 1194 A/m); and

the core loss thereof is 1300 kW/m³ or less (measurement conditions: 100 kHz, 200 mT).

24. (Previously Presented): The ferrite material according to claim 17, characterized in that the ferrite material comprises as additives, at least one selected from Nb₂O₅: 400 ppm or less (not inclusive of 0), ZrO₂: 1000 ppm or less (not inclusive of 0), Ta₂O₅: 1000 ppm or less (not inclusive of 0), In₂O₃: 1000 ppm or less (not inclusive of 0), and Ga₂O₃: 1000 ppm or less (not inclusive of 0).

25. (Previously Presented): The ferrite material according to claim 17, characterized in that the ferrite material comprises, as additives, at least one selected from SnO₂: 10000 ppm or less (not inclusive of 0) and TiO₂: 10000 ppm or less (not inclusive of 0).

26. (Previously Presented): The ferrite material according to claim 17, characterized in that the ferrite material comprises, as additives, at least one selected from a P compound: 35 ppm or less (not inclusive of 0) in terms of P, MoO₃: 1000 ppm or less (not inclusive of 0), V₂O₅: 1000 ppm or less (not inclusive of 0), GeO₂: 1000 ppm or less (not inclusive of 0), Bi₂O₃: 1000 ppm or less (not inclusive of 0), and Sb₂O₃: 3000 ppm or less (not inclusive of 0).